

REMARKS

Claims 1-3 are presented for consideration. Claims 1 and 3 have been amended.

Claims 1-3 have been rejected under 35 U.S.C. 112, second paragraph, as being “indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.” This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

The Examiner has objected to the phrase “an aromatic compound” as being vague and indefinite. Claim 1 has been amended to overcome this rejection. Specifically, the aromatic compound is represented by the formula Ar-H, wherein Ar is an aromatic cyclic group. Basis for this amendment can be found in the specification at page 10, lines 11-14. A substantial amount of disclosure is present on pages 10-13 of the specification to define the “aromatic compound.” Specific examples of aromatic compounds (C) are detailed at page 12, line 10 through page 13, line 3 of the specification.

Claims 1-3 have been rejected under 35 U.S.C. 103(a) as being “unpatentable” over Asahi et al (US 5,760,288) in view of Ichikawa et al (US 3,920,734). This rejection is also respectfully traversed. Reconsideration and withdrawal thereof are requested.

It is respectfully submitted that the Examiner is using hindsight reconstruction as a basis for alleging that a combination of the Asahi et al ‘288 patent with the Ichikawa et al ‘734 patent renders the claims obvious to one skilled in the art.

In comparing the presently claimed invention with the Asahi patent, they differ from each other in substrate and the type of reaction. The present invention uses an aromatic compound having at least one hydrogen atom bound directly to the aromatic ring as a substrate. By contrast, Asahi uses an aromatic compound having an alkyl group or a partially oxidized alkyl group as a substrate. Furthermore, the type of reaction which takes place in the present invention is carboxylation using carbon monoxide. By contrast, oxidation of the alkyl group is carried out in the Asahi patent. In short, the present invention and that of the Asahi patent are very different from each other. Therefore, a person skilled in the art is extremely unlikely to refer to Asahi for completion of the present invention. Even if the Asahi patent is considered, there is no

motivation or suggestion for making the combination absent hindsight taken from the present application.

Comparing the Asahi patent with the Ichikawa patent, Ichikawa '734 relates to a process for preparing aromatic carboxylic acids by means of a carboxylation reaction using carbon monoxide in which an aromatic compound having at least one hydrogen atom attached directly to the nuclear carbon atom is used as a substrate, and carbon monoxide and oxygen are used as the reactant. By contrast, the Asahi patent relates to a process for producing an aromatic carboxylic acid by oxidizing an alkyl group or the like in which an aromatic compound having an alkyl group or a partially-oxidized alkyl group is used as the substrate. In summary, the Asahi '288 and Ichikawa '734 patents differ from each other in substrate reactant and type of reaction.

Concerning the catalyst, Ichikawa uses a palladium carboxylate, and Asahi uses a compound in which a transition metal is incorporated into a heteropoly-acid skeleton having a deficient structural moiety. Thus, the Ichikawa and Asahi patents have nothing in common with respect to the catalyst.

Additionally, the reaction is conducted in water or a solution composed mainly of water in the Asahi patent. On the other hand, Ichikawa mentions that there is no special need to use a solvent in carrying out the process. Ichikawa further mentions that the reaction can be carried out in a medium and illustrates some organic solvents as the preferable medium. However, Ichikawa fails to disclose or suggest the use of water or an aqueous medium in the reaction.

In spite of the Examiner's comment that it would have been obvious to the skilled artisan to be motivated to combine the Ichikawa '734 patent with the Asahi '288 patent to optimize the reaction process, it is submitted that there is no motivation, teaching or suggestion of combining Asahi with Ichikawa, since they differ in substrate, reactant and catalyst.

Additionally, it is to be noted that the Asahi patent discloses incorporating a transition metal into a heteropoly-acid, and that palladium is included in the exemplification of the transition metal. However, only ruthenium is used as the transition metal in the Examples of Asahi. That is, Asahi fails to disclose use of a palladium compound in a production process for an aromatic carboxylic acid. Therefore, Asahi does not provide any motivation to combine a heteropoly-acid with a palladium compound.

Since the Examiner has failed to present a prima facie case of obviousness, it is respectfully submitted that the rejection under 35 U.S.C. 103(a) should be withdrawn, and the claims passed to issue.

In view of the above amendments and remarks, reconsideration of the rejections and favorable action on claims 1-3 are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Raymond C. Stewart, Reg. No. 21,066 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

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